Abstract

A Faraday rotator for a Faraday isolator with an input polarizer, with an output polarizer, with a roller-shaped optical crystal that is arranged therebetween and that is arranged symmetrical to its axis of symmetry, with a right hollow cylinder that surrounds this and has a hollow space made of a permanent magnetic material, which cylinder is axially magnetized and the magnetic field of which extends in the hollow space approximately parallel to the axis of symmetry that runs in only one direction from the north pole to the south pole, and with terminal magnets attached to each of the two end faces in the plane perpendicular to the y- and z-directions of the axis of symmetry, each of which is embodied as a hollow right cylinder and has a through-aperture in the extension of the axis of symmetry, is characterized in that each terminal magnet is largely radially magnetized with regard to the axis of symmetry at least by region, in that the one of the two terminal magnets is magnetized radially from interior to exterior and the other terminal magnet is magnetized radially from exterior to interior, and in that the hollow cylinder at its north pole is adjacent to the terminal magnet that is magnetized from interior to exterior and at its south pole is adjacent to the terminal magnet that is magnetized from exterior to interior.